Claims

1. A latch comprising:

a catch having a catch lock surface, a catch cam surface, and a catch abutment surface;

a pawl moveable with respect to the catch and including a pawl lock surface, a pawl cam surface, and a pawl abutment surface; and

an actuator wheel rotatable about an actuator axis and having two projections projecting from a surface of the wheel, wherein the catch and pawl are moveable between a first position wherein the pawl lock surface is in engagement with the catch lock surface and a second position wherein the pawl lock surface is out of engagement with the catch lock surface, rotation of the wheel in a first direction causing a first of the two projections to engage the pawl cam surface and move the pawl from the first position to the second position and causing a second of the two projections to engage the catch abutment surface, and rotation of the wheel in a second direction causing the first of the two projections to engage the catch cam surface and move the catch from the second position to the first position and causing the second of the two projections to engage the pawl abutment surface.

2. The latch of claim 1 further comprising a spring biasing the catch to pivot toward the second position.

3. The latch of claim 1, wherein the two projections project from a surface of the wheel that is perpendicular to the actuator axis.

4. The latch of claim 3, wherein the two projections are disposed approximately 180 degrees from each other with respect to the actuator axis.

5. The latch of claim 3, wherein the two projections are approximately equidistant from the actuator axis.

6. The latch of claim 1, further comprising a striker retained within a hook portion of the catch when the catch is in the first position.

7. The latch of claim 1, wherein the catch pivots in a plane that is substantially perpendicular to the actuator axis.

8. The latch of claim 7, wherein the pawl moves in a plane that is substantially perpendicular to the actuator axis.

9. A latch comprising:

a catch having a catch abutment, a stop surface, and a hook portion, the catch being movable between a first catch position wherein the hook portion is positioned to retain a striker and a second catch position wherein the hook portion is positioned to release the striker;

a pawl having a pawl abutment and a notch, the pawl being movable between a first pawl position wherein the notch is in engagement with the stop surface of the catch and a second pawl position wherein the notch is out of engagement with the stop surface of the catch; and

a rotating actuator wheel having two protrusions, the wheel being rotatable in a first direction wherein the first protrusion engages a pawl cam surface of the pawl causing the pawl to move from the first pawl position to the second pawl position, permitting the catch to move to the second catch position and where the catch abutment engages the second protrusion of the actuator wheel, and a second direction wherein the first protrusion engages a catch cam surface of the catch causing the catch to move from the second catch position to the first catch position, permitting the pawl to move to the first pawl position and where the pawl abutment engages the second protrusion of the actuator wheel.

10. The latch of claim 9, wherein the catch is biased toward the second catch position.

11. The latch of claim 10, wherein the pawl is biased toward the first pawl position.

12. The latch of claim 11, further comprising two springs, each of the two springs applying a biasing force to one of the catch and the pawl.

13. The latch of claim 9, wherein in the second catch position, the catch prevents the pawl from moving from the second pawl position to the first pawl position.

14. The latch of claim 9, wherein the actuator wheel is rotated by an electric motor via a worm gear.

15. The latch of claim 9, wherein the pawl is moveable from the first pawl position to the second pawl position by a cable connected to the pawl.

16. The latch of claim 9, further including a switch actuated by the striker, the switch controlling rotation of the actuator wheel.

17. The latch of claim 16, wherein the switch is a three-position switch.

18. The latch of claim 9, wherein the striker is drawn into the hook portion of the catch when the catch moves from its second position to its first position.

19. A latch comprising:

a catch including a catch lock surface and a catch cam surface;

a pawl moveable with respect to the catch and including a pawl lock surface and a pawl cam surface; and

an actuator wheel rotatable about an actuator axis and having an actuator portion formed on the wheel, wherein the catch and pawl are moveable between a first position wherein the pawl lock surface is in engagement with the catch lock surface and a second position wherein the pawl lock surface is out of engagement with the catch lock surface, rotation of the wheel in a first direction causing the actuator portion to engage the pawl cam surface and move the pawl from the first position to the second position, and rotation of the wheel in a second direction causing the actuator portion to engage the catch cam surface and move the catch from the second position to the first position.